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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,343	11/25/2003	Peter Anthony Dahl	Dahl 1	4707

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EXAMINER

ALAM, FAYYAZ

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/722,343	Applicant(s) DAHL, PETER ANTHONY	
	Examiner Fayyaz Alam	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/14/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Information Disclosure Statement

The information disclosure statement submitted on 6/14/2004 been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 - 8, 11 - 20, 23 - 26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by **Mangold et al. (U.S. Application # 2002/0093929)**.

Consider **claim 1**, Mangold et al. disclose a method for reducing interference between two or more communication systems that share a common wireless transmission medium (see abstract), the comprising: transmitting a QoS CF-Poll frame (read as one or more messages) conforming to an 802.11 standard (read as first communication standard associated with a first of the communication systems) wherein:

the said frame (read as one or more messages) is designed to notify 802.11 STAs (read as one or more nodes) conforming to the 802.11 standard (read as first communication standard) of the existence of a contention free period or CFP for the 802.11 system (read as first standard); and the CFP for the 802.11 standard (read as first communication system) spans or occurs during a CFP for the HiperLAN/2 or H2 standard (read as second of the communication systems conforming to a second communication standard different from the first communication standard) (see abstract; [0039 - 0041]; figs. 1 - 2).

Consider **claim 2** as applied to claim 1, Mangold et al. disclose a beacon frame and beacon period during the CFP and therefore the CFP for the 802.11 system (read as first communication system) would span the CFP for the H2 system (read as second communication system) as well as subsequent beacon period for the H2 system (read as second communication system) (see fig. 4; [0041]).

Consider **claim 3** as applied to claim 1, Mangold et al. disclose QoS CF-Poll frame (read as one or more message) enable the 802.11 STAs (read as one or more nodes conforming to the first communication standard) to access the wireless transmission medium during a contention period or CP (read as contention access period or CAP) for the H2 system (read as second communication system), since there is one superframe common to both systems and the QoS CF-Poll frame is required to access the wireless channel or medium (see fig. 4; [0038; 0039; 0043]). In addition, the QoS CF-Poll frame (read as one or more messages) disable the 802.11 STAs (read as one or more nodes conforming to the first communication standard) from accessing the

common wireless transmission medium during each CFP for the H2 system (read as second communication system) (see [0039]; [0041]).

Consider **claim 4** as applied to claim 1, Mangold et al. disclose transmitting QoS CF-Poll frame (read as first message) by the 802.11 system (read as conforming to the first communication standard) to notify the 802.11 STAs (read as one or more nodes conforming to the first communication standard) of the beginning of the CFP for the 802.11 system (read first communication system) (see [0039; 0041]).

Consider **claim 5** as applied to claim 4, Mangold et al. disclose QoS CF-Poll frame transmitted at the beginning of every transmission during CFP and CP (read as CAP) for both of the systems, i.e., 802.11 and H2 (read as first and second communication systems), and the superframe consists of the CFP followed by the CP (read as CAP) and therefore the QoS CF-Poll frame (read as first message) would be transmitted after the CP (read as at the end of a CAP) when the next superframe starts (see fig. 4).

Consider **claim 6** as applied to claim 4, Mangold et al. disclose that the QoS CF-Poll frame (read as first message) identifies duration of the CFP and the CP (read as CAP) for both the 802.11 and H2 systems (read as first and second communication standards) since there is only one superframe that is common between both systems (see [0039]).

Consider **claim 7** as applied to claim 4, Mangold et al. disclose transmitting CF-End (read as second message) conforming to the 802.11 system (read as first communication standard) to notify the 802.11 STAs (read as one or more nodes

conforming to the first communication standard) of the end of the CFP for 802.11 system (read as first communication system (see fig. 4; [0038; 0041])).

Consider **claim 8** as applied to claim 7, Mangold et al. disclose CF-End (read as second message) is transmitted at the beginning of the subsequent CP (read as CAP) for the H2 system (read as second communication system) since the superframe is common to both systems and the superframes are transmitted one after the other (see fig.4).

Consider **claim 11** as applied to claim 1, Mangold et al. disclose H2 MAC frame transmission (read as second communication system transmission) starts with the H2 beacon frame (read as beacon frame for the second communication system after the end of the CFP for the second communication system) (see [0038; 0041]; figs. 3 - 4).

Consider **claim 12** as applied to claim 1, Mangold et al. disclose QoS CF-Poll frames (read as one or more messages) are transmitted over the common wireless transmission medium (see abstract; [0039]).

Consider **claim 13**, Mangold et al. disclose AP (2) (read as combined node) comprising: an 802.11 AP (read as first transceiver conforming to a first communication standard); an H2 AP (read second transceiver conforming to a second communication standard different from the first communication standard); and a signal processor (read as controller adapted to coordinate operations of the first and second transceivers, wherein: the first transceiver is part of a first communication system conforming to the first communication standard; the second transceiver is part of a second communication system conforming to the second communication standard); the 802.11 and H2 systems

Art Unit: 2618

(read as first and second systems) share a common wireless transmission medium; the 802.11 transceiver is adapted to transmit QoS CF-Poll frame (read as one or more messages) conforming to the 802.11 standard (read as first communication standard), wherein: the said frame (read as one or more messages) is designed to notify 802.11 STAs (read as one or more nodes) conforming to the 802.11 standard (read as first communication standard) of the existence of a contention free period or CFP for the 802.11 system (read as first standard); and the CFP for the 802.11 standard (read as first communication system) spans or occurs during a CFP for the HiperLAN/2 or H2 standard (read as second of the communication systems conforming to a second communication standard different from the first communication standard) (see abstract; [0035; 0036; 0039 - 0041]; figs. 1 - 2).

Consider **claim 14** as applied to claim 13, Mangold et al. disclose a beacon frame and beacon period during the CFP and therefore the CFP for the 802.11 system (read as first communication system) would span the CFP for the H2 system (read as second communication system) as well as subsequent beacon period for the H2 system (read as second communication system) (see fig. 4; [0041]).

Consider **claim 15** as applied to claim 13, Mangold et al. disclose QoS CF-Poll frame (read as one or more message) enable the 802.11 STAs (read as one or more nodes conforming to the first communication standard) to access the wireless transmission medium during a contention period or CP (read as contention access period or CAP) for the H2 system (read as second communication system), since there is one superframe common to both systems and the QoS CF-Poll frame is required to

Art Unit: 2618

access the wireless channel or medium (see fig. 4; [0038; 0039; 0043]). In addition, the QoS CF-Poll frame (read as one or more messages) disable the 802.11 STAs (read as one or more nodes conforming to the first communication standard) from accessing the common wireless transmission medium during each CFP for the H2 system (read as second communication system) (see [0039]; [0041]).

Consider **claim 16** as applied to claim 13, Mangold et al. disclose transmitting QoS CF-Poll frame (read as first message) by the 802.11 system (read as conforming to the first communication standard) to notify the 802.11 STAs (read as one or more nodes conforming to the first communication standard) of the beginning of the CFP for the 802.11 system (read first communication system) (see [0039; 0041]).

Consider **claim 17** as applied to claim 16, Mangold et al. disclose QoS CF-Poll frame transmitted at the beginning of every transmission during CFP and CP (read as CAP) for both of the systems, i.e., 802.11 and H2 (read as first and second communication systems), and the superframe consists of the CFP followed by the CP (read as CAP) and therefore the QoS CF-Poll frame (read as first message) would be transmitted after the CP (read as at the end of a CAP) when the next superframe starts (see fig. 4).

Consider **claim 18** as applied to claim 16, Mangold et al. disclose that the QoS CF-Poll frame (read as first message) identifies duration of the CFP and the CP (read as CAP) for both the 802.11 and H2 systems (read as first and second communication standards) since there is only one superframe that is common between both systems (see [0039]).

Consider **claim 19** as applied to claim 16, Mangold et al. disclose transmitting CF-End (read as second message) conforming to the 802.11 system (read as first communication standard) to notify the 802.11 STAs (read as one or more nodes conforming to the first communication standard) of the end of the CFP for 802.11 system (read as first communication system (see fig. 4; [0038; 0041])).

Consider **claim 20** as applied to claim 19, Mangold et al. disclose CF-End (read as second message) is transmitted at the beginning of the subsequent CP (read as CAP) for the H2 system (read as second communication system) since the superframe is common to both systems and the superframes are transmitted one after the other (see fig.4).

Consider **claim 23** as applied to claim 13, Mangold et al. disclose H2 MAC frame transmission (read as second communication system transmission) starts with the H2 beacon frame (read as beacon frame for the second communication system after the end of the CFP for the second communication system) (see [0038; 0041]; figs. 3 - 4).

Consider **claim 24** as applied to claim 13, Mangold et al. disclose QoS CF-Poll frames (read as one or more messages) are transmitted over the common wireless transmission medium (see abstract; [0039]).

Consider **claim 25**, Mangold et al. disclose a method for reducing interference between two or more communication systems that share a common wireless transmission medium (see abstract), the comprising: transmitting a QoS CF-Poll frame (read as one or more messages) conforming to an 802.11 standard (read as first communication standard associated with a first of the communication systems) wherein:

Art Unit: 2618

the said frame (read as one or more messages) is designed to notify 802.11 STAs (read as one or more nodes) conforming to the 802.11 standard (read as first communication standard) of the existence of a contention period or CP (read as contention access period or CAP) for the 802.11 system (read as first communication system); and the CP (read as CAP) for the 802.11 standard (read as first communication system) spans or occurs during a CP (read as CAP) for the HiperLAN/2 or H2 standard since a common superframe that is common to both communication systems is disclosed (read as second of the communication systems conforming to a second communication standard different from the first communication standard) (see abstract; [0039 - 0041]; figs. 1 - 2).

Consider **claim 26** as applied to claim 25, Mangold et al. disclose 802.11 STAs (read as each node conforming to first communication standard) are allowed contend during the CP (read as CAP) by determining if the medium is available during the CP for H2 standard since a common superframe is disclosed (read as allowed to contend for access to the common wireless transmission medium only during the CAP for the second communication standard) (see [0043]).

Consider **claim 28**, Mangold et al. disclose AP (2) (read as combined node) comprising: an 802.11 AP (read as first transceiver conforming to a first communication standard); an H2 AP (read second transceiver conforming to a second communication standard different from the first communication standard); and a signal processor (read as controller adapted to coordinate operations of the first and second transceivers, wherein: the first transceiver is part of a first communication system conforming to the first communication standard; the second transceiver is part of a second communication

Art Unit: 2618

system conforming to the second communication standard); the 802.11 and H2 systems (read as first and second systems) share a common wireless transmission medium; the 802.11 transceiver is adapted to transmit QoS CF-Poll frame (read as one or more messages) conforming to the 802.11 standard (read as first communication standard), wherein: the said frame (read as one or more messages) is designed to notify 802.11 STAs (read as one or more nodes) conforming to the 802.11 standard (read as first communication standard) of the existence of a contention period or CP (read as contention access period or CAP) for the 802.11 system (read as first communication system); and the CP (read as CAP) for the 802.11 standard (read as first communication system) spans or occurs during a CP (read as CAP) for the HiperLAN/2 or H2 standard since a common superframe that is common to both communication systems is disclosed (read as second of the communication systems conforming to a second communication standard different from the first communication standard) (see abstract; [0039 - 0041]; figs. 1 - 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9 - 10, 21 - 22, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mangold et al. (U.S. Application # 2002/0093929)** in view of **Liang (U.S. Application # 2005/0239474)**.

Consider **claims 9, 21, 27** as applied to claims 1, 13, and 25, Mangold et al. disclose the common wireless medium is a wireless channel and the first communication standard is IEEE 802.11 (see abstract; figs. 1 - 2).

However, Mangold et al. fail to disclose the second communication system is IEEE 802.15.3.

In the related field of endeavor, Liang discloses second communication system is Bluetooth (read as IEEE 802.15.3) (see figs. 4 - 5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Mangold et al. with the teachings of Liang in order to resolve interference among coexisting systems using same wireless channel at a given location.

Art Unit: 2618

Consider **claims 10, 22, and 30** as applied to claims 9, 21, and 28, Mangold et al. disclose QoS CF-poll frame and CF-End are transmitted from AP (2) (read as node) that functions as both an 802.11 AP and an H2 AP (see [0035]; figs. 1 - 2).

However, Mangold et al. fail to disclose IEEE 802.15.3 piconet controller.

In the related field of endeavor, Liang discloses a Bluetooth wireless NIC (read as IEEE 802.15.3 piconet controller) (see figs. 4 - 5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Mangold et al. with the teachings of Liang in order to resolve interference among coexisting systems using same wireless channel at a given location.

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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Alexandria, VA 22314

Art Unit: 2618

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

December 17, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOMM.

Edan Orgad 12/19/06